



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

Applicant : Todd Martin Beazley
Application No.: 10/567,050
Filed : February 2, 2006
For : APPARATUS AND METHOD FOR REDUCING NOISE IN AN IMAGE
Examiner : Sheela C. Chawan
Art Unit : 2624

APPEAL BRIEF

Mail Stop: Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

May It Please The Honorable Board:

Applicant appeals from the FINAL Office Action dated October 5, 2007, in which claims 1-25 of the above-identified application stand rejected.

Applicant waives an Oral Hearing for this appeal.

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Date: 12-20-07

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I. REAL PARTY IN INTEREST

The real party in interest of Application No. 10/428,973 is:

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II. RELATED APPEALS AND INTERFERENCES

There are no related Appeals or Interferences.

III. STATUS OF THE CLAIMS

Claims 1-25 are pending in this application.

Claims 1-25 have been rejected.

The rejection of claims 1-25 are appealed.

IV. STATUS OF AMENDMENTS

In response to the FINAL Office Action dated October 5, 2007, Applicant's representative filed a Notice of Appeal on December 14, 2007.

This appeal is directed to the claims as they stood at the time of the FINAL Office Action of October 5, 2007, which are shown in the Claims Appendix of this Brief.

V. SUMMARY OF CLAIMED SUBJECT MATTER

There are seven independent claims pending in the application: 1, 8, 17, 19, 21, 22 and 25.

As noted in the background of Applicant's specification, image data may include noise that can adversely affect compression efficiency when compressing the image data, e.g., for transmission. Applicant's specification, p. 1, lns. 11-13. As such, it is known to filter the image before compression to attempt to remove the noise. Filter settings are made by viewing the filtered image, i.e., subjectively determining the fidelity of the filtered image. Applicant's specification, p. 1, lns. 2-30.

In this regard, Applicant's inventive concept recognizes that viewing the filtered image provides no information as to the level of any remaining noise or where the filtering is being performed, which can provide additional information for adjusting filter settings. Applicant's specification, p. 2, lns. 3-7; p. 7, lns. 9-28; FIG. 5.

In view of the above, Applicant's independent claim 1 is directed to a method for receiving image data (e.g., step 305 of FIG. 3), filtering the received image data to provide a filtered image (e.g., step 310 of FIG. 3) and displaying where the filtering is being performed on the received image (e.g., step 315 of FIG. 3). Applicant's specification, p. 5, ln. 22 to p. 6, ln. 7.

Applicant's independent claim 8 is similar to Applicant's independent claim 1, except that claim 8 specifically requires converting a control signal (e.g., signal 421 and element 485 of FIG. 4) used in the filtering to a video signal and displaying an image representative of the video signal (i.e., the control signal) wherein the displayed image indicates where the image data is being filtered. Applicant's specification, p. 7, lns. 10-14.

Applicant's independent claim 17 is similar to Applicant's independent claim 8, except that claim 17 further requires adjusting the filter control signal (e.g., see slider control 87 of FIG. 5). Applicant's specification, p. 7, lns. 24-28.

Applicant's independent claims 19, 21 and 22 are apparatus claims that are similar to the requirements of Applicant's independent claims 8 and 17.

Finally, Applicant's independent claim 25 is directed to a computer-readable medium encoded with a computer program for enabling selection of a number of display modes, one of which is associated with displaying where the filtering is being performed and enabling adjustment of the filter. Applicant's specification, p. 11, ln. 25 to p. 12, ln. 4; FIG. 9.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

There are four grounds of rejection to be reviewed on Appeal.

(1) Whether claims 1-3 are unpatentable under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,973,218 issued December 6, 2005 to Alderson et al. (*Alderson*).

(2) Whether dependent claims 4-6 are unpatentable under 35 U.S.C. §103(a) over *Alderson* in view of U.S. Patent No. 6,697,534, issued February 24, 2004 to Tan et al. (*Tan*).

(3) Whether claims 8, 11-22 and 25 are unpatentable under 35 U.S.C. §103(a) over *Alderson* in view of *Tan*.

(4) Whether dependent claims 7, 9, 10, 23 and 24 are unpatentable under 35 U.S.C. §103(a) over *Alderson* in view of *Tan* and further in view of U.S. Patent No. 5,949,916 issued September 7, 1999 to Chun.

VII. ARGUMENT

Rejection of Claims 1-3 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,973,218 issued December 6, 2005 to Alderson et al. (*Alderson*).

CLAIMS 1-3

The Examiner's rejection of claims 1-3 under 35 U.S.C. § 102(e) as being anticipated by *Alderson* is wrong for anyone of a number of reasons.

Applicant's dependent claims 2 and 3 stand or fall with Applicant's independent claim 1.

CLAIMS 1-3 ARE PATENTABLE

Applicant's independent claim 1 is not anticipated by *Alderson*. For convenience, Applicant's claim 1 states (emphasis added):

1. (Original) A method use in removing noise from image data, the method comprising:
 - receiving image data representing an image;
 - filtering the received image data to remove noise therefrom and to provide filtered image data; and
 - displaying where the filtering is being performed on the received image data.

It should be noted that Applicant's claim 1 requires displaying where the filtering is being performed (e.g., see FIG. 5 of Applicant's specification).

The Examiner's claim construction of the word "where" in the step "displaying where the filtering is being performed on the received image data" is untenable.

First, the Examiner is ignoring the plain language of Applicant's claim 1 and substituting her own words. In particular, in the FINAL Office Action of October 5, 2007, the Examiner states that:

[n]ote, in the claim language the examiner consider word "where" is read as comprising [sic].

FINAL Office Action, p. 2, emphasis added.

This is simply wrong. No English dictionary has a definition of “where” as meaning “comprising”. The Examiner is not her own lexicographer. Nor has the Examiner cited any U.S. federal case law supporting this position. Finally, and with all due respect, this makes no sense. The Examiner wants Applicant’s required displaying step to equivalently state “displaying [comprising] the filtering is being performed on the received image data. Respectfully, the Examiner’s construction is not plausible.

It is noted that the Examiner states:

applicant is reminded that the claim language is given its broadest reasonable interpretation.

FINAL Office Action, p. 2.

However, with all due respect, broad interpretation of a claim term does not give the Examiner a license to change the actual definition of a word. Nor, in this case, is the Examiner’s interpretation even reasonable.

In addition, the Examiner goes on further to state that

Examiner has spoken to Mr. Joseph Opalach regarding this matter and suggested Applicant to change “where” to “when” or “at the same time” or simultaneously”, evidently there was no response from Applicant.

FINAL Office Action, p. 2, emphasis added.

At the outset, Applicant’s representative notes that during that telephone call, Applicant’s representative did respond during that telephone call and declined to make any of the requested changes. Indeed, Applicant’s specification consistently refers to “where” the filtering is being performed. Applicant’s specification, p. 2, lns. 5, 17-18; p. 3, lns. 6-7; p. 4, ln. 30; p. 5, lns. 13, 29; p. 7, lns. 6, 13-14; p. 9, lns. 25-28 ; p. 12, ln. 3. Thus, there is clear support for use of the word “where” in Applicant’s claim 1.

Second, the Examiner is not allowed to change the claim to what she regards as the invention. 35 U.S.C. §112, second paragraph, is clear:

[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

(Emphasis added.)

Thus, it is improper under 35 U.S.C. §112, second paragraph, for the Examiner to reword Applicant’s claim to what she regards as the invention.

In view of the above, the plain English of Applicant's claimed requirement of "displaying where the filtering is being performed on the received image data" means what it says.

Turning now to *Alderson*, the Examiner states that *Alderson* displays Applicant's claimed step of "where the filtering is being performed on the received image data" with regard to FIG. 5 and element 516 and element 518 of *Alderson*. Respectfully, the Examiner is wrong.

FIG. 5 of *Alderson* shows a block diagram for processing image data. *Alderson*, col. 7, lns. 39-40. Of particular note are blocks 516 and 518 of *Alderson*. Block 516 of *Alderson* applies noise filtering to provide a noise-filtered image. *Alderson*, col. 10, lns. 10-17. Thus, block 518 of *Alderson* displays the noise filtered image. *Alderson*, col. 10, lns. 37-40. This is not Applicant's claimed requirement of "displaying where the filtering is being performed on the received image data". Indeed, step 518 of Alderson only displays the resultant (filtered) image — this does not display where the filtering is being performed. In fact, even Applicant's claims 1 and 2 make a distinction between displaying where the filtering is being performed and displaying the filtered image data.

Applicant does note that the Examiner characterizes the *Alderson* reference as displaying the image "as the filtering is being done". However, the Examiner mischaracterizes *Alderson*. Nowhere does *Alderson* describe, or suggest, displaying the image as filtering is being performed. In fact, *Alderson* states:

displaying an image corresponding to the frame of image data after the step of
applying noise filtering.

Alderson, col. 1, lns. 65-66; emphasis added.

Thus, the Examiner's characterization of *Alderson* is wrong since *Alderson* filters the image and then displays the filtered image. In addition, Applicant respectfully notes that the "continue" loop represented by block 520 of *Alderson* applies to each frame. *Alderson*, col. 10, lns. 40-31. Thus, for each frame of image data, noise filtering is performed by block 516 and the filtered frame is displayed by block 518 of *Alderson* — it is never the case that a frame of image data is displayed as it is being filtered as characterized by the Examiner. Therefore, nowhere does *Alderson* describe or show Applicant's claimed "displaying where the filtering is being performed on the received image data".

In view of the above, Applicant's claim 1, and, therefore, dependant claims 2-3 are patentable over *Alderson*.

Rejection of Dependent Claims 4-6 under 35 U.S.C. §103(a) as being unpatentable over *Alderson* in view of U.S. Patent No. 6,697,534, issued February 24, 2004 to Tan et al. (*Tan*).

DEPENDENT CLAIMS 4-6

If the rejection of independent claim 1 falls, then dependent claims 4-6 are patentable. As such, the rejection of dependent claims 4-8 stands or falls with Applicant's independent claim 1.

Rejection of Claims 8, 11-22 and 25 under 35 U.S.C. §103(a) as being unpatentable over *Alderson* in view of *Tan*.

CLAIMS 8, 11-22 and 25

Claims 8, 11-22 and 25 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Alderson* in view of *Tan*. Applicant respectfully traverses for the reasons described above with respect to independent claim 1.

In addition, with respect to Applicant's independent claim 8, the Examiner's argument misses the mark. First, as noted above with respect to Applicant's claim 1, *Alderson* does not describe or suggest displaying where the filtering is being performed as also required by Applicant's claim 8.

Second, the Examiner's asserted reason for modifying *Alderson* is simply misplaced. There is simply no reason to modify the apparatus described in *Alderson* as stated by the Examiner. *Tan* is directed to adaptively computing a crispening parameter. In fact, the crispening parameter described in *Tan* addresses a problem where "employing human judgement to adjust the sharpness of an image or series of images is frequently not practical or desireable" [sic]. *Tan*, col. 2, lns. 43-45; emphasis added. Thus, the crispening parameter described in *Tan* has no relation to converting a control signal (used in filtering the image) to a video signal as claimed by Applicant. As such, the crispening parameter described in *Tan* provides no reason to modify Alderson to convert a control signal (used in filtering the image) to a video signal. Indeed, contrary to *Tan*, one use of Applicant's claimed invention is for displaying where the filtering is being performed so that filter settings can be adjusted by a user, i.e., employing human judgement. Applicant's specification, p. 7, lns. 23-25.

With respect to Applicant's independent claims 17, 19, 21, 22 and 25, similar comments apply and these stand or fall with Applicant's independent claim 8.

In view of the above, claims 8, 11-22 and 25 are patentable over *Alderson* in view of *Tan*.

Rejection of Dependent Claims 7, 9, 10, 23 and 24 under 35 U.S.C. §103(a) as being unpatentable over *Alderson* in view of *Tan* and further in view of U.S. Patent No. 5,949,916 issued September 7, 1999 to Chun.

DEPENDENT CLAIMS 7, 9, 10, 23 and 24

If the rejection of independent claims 1, 8 and 22 fall, then respective dependent claims 7, 9, 10, 23 and 24 are patentable. As such, the rejection of dependent claims 7, 9, 10, 23 and 24 stands or falls with their respective independent claims.

VIII. CONCLUSION

For the above reasons, Applicant submits that claims 1-25 are patentable. It is therefore respectfully requested that

- the rejection of claims 1-3 under 35 U.S.C. § 102(e);
- the rejection of dependent claims 4-6 under 35 U.S.C. § 103(a);
- the rejection of claims 8, 11-22 and 25 under 35 U.S.C. § 103(a); and
- the rejection of dependent claims 7, 9, 10, 23 and 24 under 35 U.S.C. § 103(a);

all be reversed.

Respectfully submitted,
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IX. CLAIMS APPENDIX

1. (Original) A method use in removing noise from image data, the method comprising:

receiving image data representing an image;

filtering the received image data to remove noise therefrom and to provide filtered image data; and

displaying where the filtering is being performed on the received image data.

2. (Original) The method of claim 1, further comprising the step of displaying the filtered image data.

3. (Original) The method of claim 1, further comprising the step of compressing the filtered image data to provide compressed filtered image data.

4. (Original) The method of claim 3, further comprising the step of transmitting the compressed filtered image data to an endpoint.

5. (Original) The method of claim 1, further comprising the step of, in response to the displaying step, adjusting filter parameters used in the filtering step.

6. (Original) The method of claim 5, further comprising the step of storing the adjusted filter parameters for future reference in filtering the image data.

7. (Original) The method of claim 1, wherein the filtering is performed in accordance with a Lee filter.

8. (Original) A method for use in processing image data, the method comprising:
filtering image data to provide filtered image data;
converting a control signal used in the filtering to a video signal; and
displaying an image representative of the video signal;
wherein the displayed image indicates where the image data is being filtered.

9. (Original) The method of claim 8, wherein the filtering is performed in accordance with a Lee filter.

10. (Original) The method of claim 9, wherein the control signal is a smoothing control signal of the Lee filter.

11. (Original) The method of claim 10, wherein the converting step converts the control signal to a monochrome video signal.

12. (Original) The method of claim 8, wherein the converting step converts the control signal to a monochrome video signal.

13. (Original) The method of claim 8, wherein the image is a black and white representation of edge activity in the filtered image data.

14. (Original) The method of claim 8, wherein the control signal represents a statistical function.

15. (Original) The method of claim 8, wherein the statistical function is a local variance of at least a portion of the image data.

16. (Original) The method of claim 15, wherein the portion is a group of pixels of the image data.

17. (Original) A method for use in processing image data, the method comprising:
filtering the image data to provide filtered image data in accordance with at least one value of at least one filter control signal;
converting the at least one filter control signal to a video signal;
displaying an image representative of the video signal; and
adjusting the at least one value of the at least one filter control signal in response to the displayed image.

18. (Original) The method of claim 17 wherein the adjusting step compares an average brightness level of the displayed image to a predefined average brightness level.

19. (Original) A server for processing image data, the server comprising:
a filter for filtering image data to provide filtered image data;
a video converter for converting at least one control signal of the filter to a video signal; and
a display for showing an image representative of the video signal.

20. (Original) The server of claim 19, wherein the display also shows the filtered image data.

21. (Original) A video processor comprising:
a receiver for receiving image data;
a video processing element for filtering the received image data to remove noise therefrom, wherein the video processing element includes a filter preview element for providing a video signal representative of a control signal within the video processing element; and
a display for showing an image representative of the video signal, wherein the image provides a visual indication of where noise is being removed from the image data.

22. (Original) Apparatus comprising:

a filter for filtering image data to provide filtered image data and a filter control signal;

a video converter for converting the filter control signal to a video signal; and

a display for showing an image representative of the video signal.

23. (Original) The apparatus of claim 22 further comprising:

a multiplexer coupled to the filter, video converter and the display, wherein the multiplexer is responsive to a mode control signal for coupling either the filtered image data or the video signal to the display.

24. (Original) The apparatus of claim 22, wherein the filter is a Lee filter and the control signal is a measure of a local variance of at least a portion of the image data.

25. (Previously presented) A computer-readable medium encoded with a computer program comprising the steps of:

enabling selection of one of a number of display modes for use in processing image data, wherein at least one of the number of display modes is associated with displaying where filtering of noise in the image data is occurring; and

enabling adjustment of at least one filter control signal used in the filtering of noise in the image data.

X. EVIDENCE APPENDIX (NONE)

None.

XI. RELATED PROCEEDINGS APPENDIX (NONE)

None.